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Claims

1. A method of direction finding for radio signals of known bandwidth and cycle time comprising the steps of:

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receiving the radio signals on an array of at least three antennas to provide a corresponding number of signal channels;

10 correlating, for each channel, one or more complete modulation cycles of the signal with the next modulation cycle;

summing the correlated signals so obtained;

15 determining the frequency of the radio signal of interest from the sum of the correlated signals;

mixing the frequency so determined with the uncorrelated channel signals to produce a narrow bandwidth signal commensurate with the modulation of the radio signals and

20 applying phase detection and direction finding routines to the narrow bandwidth signals.

25 2. The method of claim 1, further including the step of mixing the received signals to an intermediate frequency (IF) suitable for further processing, prior to correlation of the modulation cycles.

30 3. Apparatus for direction finding for radio signals of known bandwidth and cycle time comprising an array of at least three antennas arranged to receive the radio signals of interest and provide a corresponding number of signal channels;

means for correlating, for each channel, one or more complete modulation cycles of the signal with the next modulation cycle;

means for summing the correlated signals so obtained;

35 means for determining the frequency of the radio signal of interest from the sum of the correlated signals;

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means for mixing the frequency so determined with the uncorrelated channel signals to produce a narrow bandwidth signal commensurate with the modulation of the radio signals and

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processing means for applying phase detection and direction finding routines to the narrow bandwidth signals.

4. The apparatus of claim 3, further including means for mixing the received signals to 10 an intermediate frequency (IF) suitable for further processing, prior to correlation of the modulation cycles.